

'BRS MARFIM': NEW COMMON BEAN CULTIVAR FROM "MULATINHO" COMERCIAL GRAIN TYPE

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Dry beans is an important source of protein on daily diet of Brazilian urban and rural people. Due to good adaptability to a variety of weather and soil conditions the dry bean culture takes place in different production systems in small farms. Part of this production is used by the farmer subsistence and the exceeded is sold in the local market. In the Northeast of Brazil, there is a strong demand for mulatinho (small beige) grain type by the small farmers where this crop has a great socioeconomic importance mainly for the low income people. To fill this demand the Embrapa Rice and Beans is releasing the variety BRS Marfim.

BRS Marfim is originated from a multiple cross (BAT 85///A 375/G17702//A445/XAN112), performed at CIAT. Embrapa Rice and Beans received the developed A774 line and promoted it to the Preliminary Trial in 1991. This line was assessed together with additional 19 lines and two controls in the National Trial, conducted under six environments, in the States of Goiás (1), Pernambuco (2), Bahia (2) and Sergipe (2). The joint analysis of the grain yield data and other agronomic characteristics provided the elements to promote A774 to the Regional Trial during the 1995/96 crop season. This time, A774 was assessed with ten additional lines and five controls in a randomized complete block design with four replications in 14 environments in the States of Goiás (4), Bahia (6), Pernambuco (1), Rio Grande do Norte (1), Ceara (1) and Paraíba (1) with average grain yield 11.0% superior than the controls (Table 1).

Table 1. Yield of cultivar BRS Marfim compared to the mean of two control cultivars in 1995 and 1996.

Region	State	BRS Vereda (kg/ha)	Mean for controls (kg/ha)	Relative Yield (%)	Number of sites
Northeast	Bahia	1525	1488	102.3	6
	Pernambuco	2667	2120	125.8	1
	Rio Grande do Norte	1817	1613	112.6	1
	Paraíba	1054	744	141.7	1
	Ceara	627	715	87.7	1
Center West	Goiás	2626	2319	113.2	4
Mean	-	1844	1687	111.0	

¹Controls: IPA 6 and Bambui.

Based on these results the line A774 was released in 2002 with the trade name of BRS Marfim, for the states of Goiás, Bahia, Pernambuco, Rio Grande do Norte, Paraíba e Ceará. Even though grain yield in Ceará had been 12,3% less than the controls, disease resistance and superior grain quality provided basis for cultivar indication for this state.

BRS Marfim has uniform grain size and color, average 100 grain mass of 26.6 g, excellent cooking quality and good grain appearance after cooked (Table 2).

Table 2. Technological and industrial quality of seeds from the cultivar BRS Marfim.

Cultivar	Cooking time (minutes)	Soluble solids (%)	Protein (%)	Whole grain (%)
BRS Marfim	30.0	9.3	22.1	85

Under artificial inoculation BRS Marfim showed resistant reaction to common mosaic virus and to the following *C. lindemuthianum* pathotypes: 89, 453 and 95. In the field trials, it presented resistant reaction to rust, intermediate resistance to angular leaf spot and susceptibility to common bacterial blight.

BRS Marfim presents semi-erect plant type in any crop system and under a variety of soil and climate conditions where it was evaluated. It also presented good lodging resistance throughout its cycle of 89 days, in average, from emergence to physiological maturity.

BRS Marfim, due to its superior yield potential and differentiated grain type, associated to excellent cooking performance, semi-erect plant type, resistance to lodging and to major diseases, is an interesting option for producers involved with specialty grain type production, providing a value added commodity for commercialization in the States of Goiás, Bahia, Pernambuco, Rio Grande do Norte, Paraíba and Ceará.

Genetic seed stocks are maintained by Embrapa Rice and Beans and basic seed is available at Embrapa Technology Transfer.

Institutions of participating scientists:

Embrapa Arroz and Feijão; Embrapa Transferência de Tecnologia/Escritório de Negócios de Goiânia-GO; EBDA - Empresa Baiana de Desenvolvimento Agrícola; IPA - Empresa Pernambucana de Pesquisa Agropecuária; Emparn - Empresa de Pesquisa Agropecuária do Rio Grande do Norte; Emepa - Empresa Estadual de Pesquisa Agropecuária da Paraíba; Epape - Empresa de Pesquisa Agropecuária do Ceará.

References

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